Page 13,

Line 6, change "3" to --2--.

IN THE CLAIMS:

Please delete the originally-filed claims in International Application No. PCT/NO99/00141, as well as Claims 1-26 that were introduced during international prosecution by way of claim amendments made pursuant to Article 19 of the Patent Cooperation Treaty, and which replaced the originally-filed claims, without prejudice to or disclaimer of the subject matter recited in any of these claims.

Please add Claims 27-57 as follows:

--27. A peptide for use in the treatment of Alzheimer's disease or Down's syndrome, said peptide characterized in that it:

a) is a fragment of a mutant βAPP protein or a mutant Ubi-B protein arising from a frameshift mutation associated with Alzheimer's disease or Down's syndrome, the mutant βAPP protein and the mutant Ubi-B protein each having a mutant part and a normal part to its protein sequence;

b) consists of at least one amino acid residue of the mutant part of the mutant βAPP protein or the mutant Ubi-B protein;

c) comprises 0-10 amino acid residues of the mutant βAPP protein or the mutant Ubi-B protein corresponding, in the case of either protein, to the carboxyl terminus of the normal part of the protein sequence preceding the amino terminus of the mutant sequence and optionally extending to the carboxyl terminus of the mutant part of the protein as determined by a new stop codon generated by the relevant frameshift mutation, wherein the total number of amino acid residues from (b) and (c) is at least 8; and

(d) induces, either in its full length or after processing by antigen presenting cells, T cell responses.

28. The peptide according to claim 27, wherein the peptide contains a total of 8-25 amino acid residues.

29. The peptide according to claim 27, wherein the peptide contains a total of 9-20 amino acid residues.

30. The peptide according to claim 27, wherein the peptide contains a total of 9-16 amino acid residues.

31. The peptide according to claim 27, wherein the peptide contains a total of 8-12 amino acid residues.

32. The peptide according to claim 27, wherein the peptide contains a total of 20-25 amino acid residues.

33. The peptide according to claim 27, wherein the peptide contains a total of 9 amino acid residues.

34. The peptide according to claim 27, wherein the peptide contains a total of 12 amino acid residues.

35. The peptide according to claim 27, wherein the peptide contains a total of 13 amino acid residues.

36. The peptide according to claim 27, wherein the peptide is selected from the group of peptides consisting of SEQ ID NO: 1 - SEQ ID NO: 10, and a fragment of any of these peptides.

37. A pharmaceutical composition comprising a peptide according to any of claims 27-36 and a pharmaceutically acceptable carrier or diluent.

38. A vaccine for Alzheimer's disease comprising a peptide according to any of claims 27-36 and a pharmaceutically acceptable carrier or diluent.

39. The use of a peptide according to claim 27 for the preparation of a pharmaceutical composition for the treatment or prophylaxis of Alzheimer's disease or for the treatment of Down's syndrome.

40. A method for vaccinating a human patient disposed to developing, or afflicted with, Alzheimer's disease, comprising administering to the patient at least one peptide according to claim 27, one or more times, in an amount sufficient to induce specific T-cell immunity to both mutant βAPP and mutant Ubi-B proteins or specific T-cell immunity to either of these proteins.

41. A method for vaccinating a human patient disposed to developing, or afflicted with, Alzheimer's disease, comprising administering to the patient at least one peptide according to claims 28-36, one or more times, in an amount sufficient to induce specific T-cell immunity to both mutant βAPP and mutant Ubi-B proteins or specific T-cell immunity to either of these proteins.

42. The method according to claim 40, wherein the amount of the at least one peptide is in the range of 1 microgram (1 μg) to 1 gram (1 g) for each administration.

43. The method according to claim 42, wherein the amount of the at least one peptide is in the range of 1 microgram (1 μg) to 1 milligram (1 mg) for each administration.

44. A method for treating a human patient afflicted with Alzheimer's disease or Down's syndrome, comprising stimulating the patient *in vivo* or *ex vivo* with at least one peptide according to claim 27.

45. A method for treating a human patient afflicted with Alzheimer's disease or Down's syndrome, comprising stimulating the patient *in vivo* or *ex vivo* with at least one peptide according to any of claims 28-36.

46. The method according to claim 44, wherein the amount of the at least one peptide used is in the range of 1 microgram (1 μg) to 1 gram (1 g) for each administration.

47. The method according to claim 44, wherein the amount of the at least one peptide used is in the range of 1 microgram (1 μg) to 1 milligram (1 mg) for each administration.

48. An isolated DNA sequence for use in the treatment of Alzheimer's disease or Down's syndrome comprising a DNA sequence or variants thereof encoding the peptide according to claim 27.

49. An isolated DNA sequence according to claim 48 encoding peptides comprising SEQ. ID. NOS: 1-10 or variants thereof.

50. The use of the DNA sequence according to claim 49, for the preparation of a pharmaceutical composition for the treatment or prophylaxis of Alzheimer's disease or for the treatment of Down's syndrome.

51. A method for treating a human patient disposed to developing, or afflicted with, Alzheimer's disease or afflicted with Down's syndrome, comprising stimulating the patient *in vivo* or *ex vivo* with the DNA sequence according to claims 48 or 49.

52. A vector comprising the DNA sequence of claim 48.

53. The vector according to claim 52, wherein the vector is selected from the group consisting of a plasmid and a viral vector.

54. The vector according to claim 52, wherein the vector is selected from the group consisting of an *E. coli* plasmid, a Listeria vector and a recombinant viral vector.

55. The vector according to claim 54, wherein the recombinant viral vector is selected from the group consisting of an orthopox virus, a canary virus, a capripox virus, a suipox virus, a vaccinia virus, a baculovirus, a human adenovirus, an SV40 virus and a bovine papilloma virus.

56. The use of a plasmid or viral vector according to claim 52 for the preparation of a pharmaceutical composition for the treatment or prophylaxis of Alzheimer's disease or for the treatment of Down's syndrome.

57. A method for treating a human patient disposed to developing, or afflicted with, Alzheimer's disease or afflicted with Down's syndrome, comprising stimulating the patient *in vivo* or *ex vivo* with the vector according to claim 52.--

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REMARKS

Applicants request early examination on the merits and favorable consideration of this application.